

Indications and Results of Lower Gastrointestinal Endoscopy in a Regional Hospital Center in Senegal

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Abstract

Introduction: Gastrointestinal endoscopy plays a crucial role in the management of gastrointestinal diseases. The aim of this study was to report the indications and results of lower digestive endoscopy in a hospital center in Senegal. **Patients and Methods:** We conducted a descriptive retrospective study from September 1st, 2017, to September 30, 2018 at the gastrointestinal endoscopy unit of the regional hospital center of Thiès. All patients received for lower gastrointestinal endoscopy and whose reports were usable, were included. In the reports, we collected and analyzed sociodemographic data, indication and results of the endoscopic examination. **Results:** We included 250 patients. There were 140 men (sex ratio 1.27). The average age was 42 years [range 1 - 92 years]. There were 37 colonoscopies (14.8%), 51 rectosigmoidoscopies (20.4%) and 162 anorectoscopies (64.8%). The patients were from the region of Thiès in 82% of cases. In most cases, they were most often referred by general practitioners (22.8%) and surgeons (20.8%). The main indications were rectal bleeding (36.8%), hemorrhoidal disease (23.2%) and proctalgia (11.6%). Hemorrhoidal disease (63.6%), anal fistula (14%) and tumors (8.8%) were the most common pathologies. **Conclusion:** Admitted patients at the gastrointestinal endoscopy unit of the regional hospital center of Thiès have many indications as well as pathologies. Anal pathology is dominated by hemorrhoidal disease.

Keywords

Lower Gastrointestinal Endoscopy, Rectal Bleeding, Hemorrhoidal Disease

1. Introduction

Lower GI endoscopy plays a crucial role in the management of gastrointestinal tract pathologies. It represents the benchmark examination for the exploration of most colorectal diseases. It has been used in the regional hospital center of Thiès since 2004. Its availability has enhanced the quality of the technical capacity within the center. In Senegal, little research has been done on lower GI endoscopy. Our goal was to evaluate the indications and results of diagnostic lower GI endoscopy in the regional hospital center of Thiès.

2. Materials and Methods

It was a descriptive retrospective study conducted covering the period from September 1st, 2017, to September 30, 2018 in the Gastrointestinal Endoscopy Unit of the Regional Hospital Center of Thiès. Our study population was composed of patients received for lower gastrointestinal endoscopy. We included all patients whose reports were usable. Non-inclusion criteria were refusal to proceed to the examination.

We collected data related to age, gender, geographic region, referring practitioner, indication, and results of endoscopic examination. Data were analyzed with the software Sphinx Plus Version 5.

3. Results

We gathered 250 lower gastrointestinal endoscopy reports which concerned 250 patients. No record was excluded. It was 27 colonoscopies (14.8%), 51 rectosigmoidoscopies (20.4%), and 162 anorectoscopies (64.8%).

Colonoscopy was incomplete for 20 patients (54.1%). The causes of failure were poor bowel preparation in 6 cases and poor tolerance in 6 cases. For 8 patients, the cause was not specified.

Patients had an average age of 47 years [range: 1 - 92 years]. There was a male predominance with 140 men (sex ratio of 1.3).

Patients originated from the region of Thiès in 82% of cases and from the region of Diourbel in 5.2% of cases (**Table 1**). Geographic region was not specified for 14 patients.

Patients were addressed by general practitioners in 22.8% of cases and by surgeons in 19.6% of cases (**Table 2**). The referring practitioner was not specified for 86 patients.

Rectal bleeding (36.8%), hemorrhoidal disease (23.2%), proctalgia (11.6%), rectal prolapse (7.2%) and abnormal bowel movement (6.8%) were the most common indications (**Table 3**).

Lower gastrointestinal endoscopy was normal for 25 patients (10%). It showed anomalies in 90% of cases.

The main pathologies were hemorrhoidal disease (63.6%), anal fissure (14%), ano-rectitis (7.2%) and anal fistula (5.6%) (**Table 4**).

Table 1. Distribution of patients by geographic region.

Region	Number of patients	Percentage (%)
Thiès	205	82
Diourbel	13	5.2
Louga	9	3.6
Dakar	5	2
Other*	4	1.6
Non specified	14	5.6

*Kaolack, Saint Louis, Vélingara.

Table 2. Distribution of patients by referring practitioner.

Referring practitioner	Number of patients	Percentage (%)
General practitioner	57	22.8
Surgeon	49	19.6
Internal medicine practitioner	42	16.8
Pediatrician	8	3.2
Urologist	5	2
Gastroenterologist	3	1.2
Non specified	86	34.4

Table 3. Distribution of patients by main indications of lower GI endoscopy.

Indications	Number of patients	Percentage (%)
Rectal bleeding	92	36.8
Hemorrhoidal disease	58	23.2
Proctalgia	29	11.6
Rectal prolapse	18	7.2
Abnormal bowel movement	17	6.8
Anemia	13	5.2
Anal fistula	11	4.4
Anal fissure	8	3.2
Abdominal pain	7	2.8
Dysentery	6	2.4
Rectal mass	5	2
Colic tumor	3	1.2

Table 4. Distribution of patients by pathology.

Indications	Number of patients	Percentage (%)
Hemorrhoidal disease	159	63.6
Anal fissure	35	14
Ano-rectitis	18	7.2
Rectal prolapse	15	6
Anal fistula	14	5.6
Colorectal cancer aspect	10	4
Colorectal polyp	9	3.6
Hypotonic sphincter	6	2.4
Colonic diverticulosis	5	2
Anal cancer aspect	3	1.2%
Perianal dermatitis	2	0.8
Extrinsic rectal compression	2	0.8
Anal wart	1	0.4
Rectocolitis	1	0.4

Hemorrhoids were grade 1 in 60% of cases, grade 2 in 22.8% of cases, grade 3 in 14.3% of cases and grade 4 in 2.9% of cases.

Colonic diverticulosis represented 2% of pathologies found on all examinations, and 5.7% of pathologies shown by colonoscopy and rectosigmoidoscopy.

4. Discussion

In our study, the average was 47 years [range: 1 - 92 years]. Previous studies conducted in Senegal [1] and Cameroon [2] on lower gastrointestinal endoscopy found an average age of 41 and 38 years respectively. It is probably associated to the young age of the African population notably in Senegal.

In our study, 20 colonoscopies were incomplete due to a poor bowel preparation or poor examination tolerance.

The main causes of incomplete colonoscopies reported in published data were poor bowel preparation, poor tolerance, dolichocolon, tortuous colon, diverticular disease, and low body mass index [3] [4].

Rectal bleeding was the most common indication of endoscopy for our patients (36.8% of cases). It represented the number one indication of examination in the study of Ndjitoyap *et al.* in Cameroon (38.84% of cases) [2]. Bagny *et al.*, in a study conducted in Lomé (Togo) [5] reported it in 64.1% of cases in ano-rectal pathologies. In the work of Dia *et al.*, on anal pathology in Dakar [6], rectal bleeding made for 57.59% of indications.

In the series of Okon JB *et al.* in Ivory Coast [7], rectal bleeding was the indi-

cation of colonoscopy in 23.3% of cases.

In most cases GI bleeding is a cause of stress for patients. It is a pressing reason for medical consultation due to the anxiety and anguish it induces.

Hemorrhoidal disease was the indication for 23.2% of patients. It includes different manifestations made up of rectal bleeding, proctalgia, rectal and hemorrhoid prolapse.

This symptomatology was not specified on the medical reports.

In our study, the global prevalence of colonic diverticulosis was 2%. It was 5.7% in the population of patients who benefitted from colonoscopy or rectosigmoidoscopy. Ndjitoyapet *et al.* in Cameroon [2], and Dia *et al.* in Senegal [1] noted respectively a prevalence of 2.6% and 1.2% on all lower endoscopy.

Mbengue *et al.* (Senegal) [8] in a study on colonic diverticulosis found an endoscopic prevalence of 9.49% on all colonoscopy. In the study of Okan *et al.* in Ivory Coast [7], colonic diverticulosis was the cause of bleeding in 8.2% of cases.

Prevalence is higher in Northern countries particularly in France where it is 17.6% [9].

Colorectal cancer aspects were found in 4% of patients. In studies conducted in Cameroon [2] and Senegal [1] the prevalence of colorectal cancer was respectively of 5.55% and 4.2%.

Akouane F *et al.* [10] in a study on the indications, results, and yield of colonoscopy in Cameroon, found a prevalence of 7%. Bernardini [9] found a prevalence of 2.5%.

The lack of pathologic anatomy study is a major limitation to our study. It would have enabled us to confirm the malignant nature of lesions and specify their histological type.

Colonic diverticulosis and colorectal cancer are rare in Africa. However, there is a steady increase of their prevalence which may result partly from the *westernization* of dietary habits (low fiber and high-fat diet), and as well as from the increase in life expectancy and the improvement of technical capacity.

Lower gastrointestinal endoscopy showed polyps for 3.6% of patients. They were reported in 15.63% of cases in Cameroon [2], 5.8% in Senegal [1] and 11.4% in Ivory Coast [7].

There is a great disparity of the prevalence of polyps from one region of the world to another and within the same region. Indeed, they represent a real public health issue in Europe and North America where high prevalence are noted, whereas they are rare in Africa and Asia [8] [11].

5. Conclusion

Lower GI endoscopy is an essential procedure in the management of lower GI tract pathologies. In the gastrointestinal endoscopy unit of the Regional Hospital Center of Thiès rectal bleeding constitutes the most frequent indication. Hemorrhoids is the most common diagnosed disease. Its popularization in the region of Thiès would make it more accessible to the population.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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